EXHIBIT B

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA
CHARLESTON DIVISION

IN RE: ETHICON, INC. PELVIC REPAIR SYSTEM PRODUCTS LIABILITY LITIGATION **THIS DOCUMENT RELATES TO:** **ALL WAVE 1 CASES INVOLVING PROLIFT, GYNEMESH PS, & PROLENE**	**Master File No. 2:12-MD-02327** **MDL No. 2327** **JOSEPH R. GOODWIN** **U.S. DISTRICT JUDGE**

RULE 26 REPORT OF DONALD R. OSTERGARD, M.D.

Declaration Regarding Ethicon's Gynemesh, Prolene, and Prolift Products

The following report is provided pursuant to Rule 26 of the Federal Rules of Civil Procedure. The opinions are held and expressed as follows:

1. I am a physician licensed to practice medicine in the State of California. I attended the University of California (Los Angeles) followed by medical school. I received a Bachelor of Science degree in 1960 from the University of California (San Francisco) and a medical and master's (anatomy) degrees in 1963. I completed my Residency in Obstetrics and Gynecology at Los Angeles County Harbor General Hospital in 1968 and I have been a board-certified obstetrician and gynecologist since 1970. I have been a faculty member of the UCLA School of Medicine. From 1979 to 2011, I was a Professor or Professor Emeritus of Obstetrics and Gynecology at the University of California, Irvine. I am currently Professor-in-Residence at the UCLA School of Medicine, Harbor-UCLA Medical Center, Torrance, CA. A copy of my current CV is attached as **Attachment A.**

2. I am aware of the Protective Order in this matter and expect that because I refer to documents identified as CONFIDENTIAL by ETHICON that my entire declaration will be submitted to the Court in a sealed envelope.

3. Pelvic Organ Prolapse (POP) may consist of a cystocele, rectocele and stress urinary incontinence (a cystocele consists of a herniation of the anterior vaginal wall with the bladder behind it; a rectocele consists of a herniation of the posterior vaginal wall with the rectum behind it; stress urinary incontinence occurs with any increase in intraabdominal pressure, such as, with coughing). This type of prolapse may produce symptoms of a vaginal bulge, the sensation that the woman is sitting on something, pelvic pressure felt in the lower abdomen, and painful intercourse (dyspareunia). Patients may abstain from sexual relations because of the protrusion of the bladder to the outside or because of the incontinence. The POP may sufficiently interfere with the patient's lifestyle that she becomes sedentary and avoids any type of activity. As the

prolapse develops it may create a kinking of the urethra through which urine travels from the bladder to the outside. This kinking obstructs the flow of urine and creates a very slow egress of urine from the bladder and may result in the inability to empty the bladder with retention of urine within the bladder. Since urine is a very good culture medium for bacteria to grow in, this retention of urine can be productive in bladder infections that may back up into the kidneys and produce a kidney infection which can be life threatening.

4. Medical treatment for a patient with Pelvic Organ Prolapse and stress urinary incontinence can be accomplished with the insertion into the vagina of a vaginal pessary which is a ring or cube shaped device which will keep the prolapsed bladder inside the vagina. Stress incontinence may be treated with a pessary containing a knob, Kegel's exercises and electrical stimulation. This is considered temporary therapy in a sexually active woman because of the need to remove it for intercourse. Replacement of the bladder in a woman with obstruction to urine flow may also be treated by the insertion of a pessary. Surgical treatment of the prolapse can be accomplished without using mesh with the sole use of native tissue by an anterior and posterior colporrhaphy, abdominal sacral colpopexy where mesh could be used, LeFort colpocleisis (vaginal closure) or total vaginal excision. Surgical treatment of stress incontinence can be done by a sub-urethral sling, Burch procedure or intra-urethral injections. The exclusive use of native tissue would avoid those adverse events which occur only with mesh while obtaining equally good support for the prolapse. Surgical treatment of stress incontinence can be done by a sub-urethral sling, Burch procedure or intra-urethral injections.

5. When complications develop from the defective Ethicon vaginal mesh devices, such as, vaginal mucosal dehiscence, mesh exposure, chronic pelvic, lower abdominal and vaginal pain along with urinary frequency, recurrent urinary tract infections, painful intercourse, vaginal/mesh tenderness, vaginal rigidity, the treatment is to remove the device. If an erosion/exposure is early and small it may respond to the use of intravaginal estrogen to stimulate the growth of the vaginal lining to cover the area of exposure. When pain or allergic reaction to the device develops or if the device erodes into adjacent organs, such as, the urethra, anal sphincter, rectum, or other bowel, the device must be removed. Generally this is very difficult due to the intense inflammatory reaction and the resultant fibrosis and scarring of the tissues where the device resides. This is especially prominent with the Gynemesh devices. Complete removal generally is not possible due to the degradation of the polypropylene which weakens the mesh to the point that it literally falls apart during dissection. Removal attempts may also damage the nearby organs listed above due to the adherence of the device to these structures. Multiple surgeries are frequently required in attempts to remove the device. Patients also experience contracture and shrinkage of the device and the vagina which decreases the lumen of the vagina which makes intercourse painful and sometimes impossible. When the device cannot be removed totally, a pelvic pain syndrome occurs which is very difficult to treat and narcotics may be required to control the pain. Acupuncture, tibial nerve stimulation, physical therapy and a lot of emotional support may be helpful, but will not treat the basic problem since mesh frequently remains in the body in varying amounts.

6. I submit that I am also familiar with warnings associated with transvaginal mesh implant products, including the warnings on Ethicon's Prolift, Prolene, Gynemesh and Gynemesh PS implant products. My opinions set forth in this declaration are based on my education, experience and qualification and are made to a reasonable degree of medical certainty.

7. The polypropylene mesh used in the manufacture of Gynemesh is defective in the following ways:

a. The weave of the mesh produces very small interstices which allow bacteria to enter and to hide from the host defenses designed to eliminate them. The bacteria can secrete an encasing slime (biofilm) which further serves to protect them from destruction by white blood cells and macrophages. (Osterberg B. Acta Chir Scand 1979;145:431, Merritt K. J Biomat Appl 1991;5:185, An Y. J Biomed Mater Res (Appl Biomat) 1998;43:338)

b. The polypropylene is impure. There is no such thing as pure polypropylene (PP). PP contains about 15 additional compounds which are leached from the PP and are toxic to tissue which enhances the inflammatory reaction and the intensity of fibrosis. (Sternschuss G. J Urol 2012;188:27-32)

c. Prolene mesh was shown to be not inert in 2003 with flaking and fissuring demonstrated by scanning electron microscopy. (Coda A. Hernia 2003;7:29 and confirmed in Yahi Y. Int Urogyn J 2007;18(Suppl 1):S6)

d. With loss of PP due to degradation, the surface area is greatly increased thus providing greater areas for bacterial adherence and more elution of toxic compounds from the PP and also the freed toxic PP itself, all of which increases the inflammatory reaction and intensity of fibrosis. (Jongebloed W. Doc Ophth 1986;64:143, Sternschuss G. J Urol 2012;188:xxx, Clave A. Int Urogyn J 2010;21:261)

e. Polypropylene mesh in 1998 was known to shrink 30-50%. This was subsequently confirmed for Prolene mesh. (Klinge U. Eur J Surg 1998;164:965, Jacquetin B. Int Urogyn J 2009;20:893)

f. Heat begins the process of degradation. Gynemesh mesh is cut by a high heat laser. (Serbetci K. 2007;195:375, 20111213110058384)

g. Predominate infection/inflammation was noted in 2007 in explanted samples from Dr. Cosson's series of patients. (Yahi Y. Int Urogyn J 2007;18(Suppl 1):S149)

h. The large surface area promotes wicking of fluids and bacteria and is a "bacterial super highway" which provides a safe haven for bacteria which attached themselves to the mesh during the insertion process. (Mahmoud W. J Biomat Sci Polymer Ed 1996;7:751, Klinge U. J Biomed Mater Res 2002;63:765, Vollebregt A. Int Urogyn J 2009;20:1345)

i. As indicated by the publication dates in many of the above items, due diligence would have detected all of these mesh defects and helped to predict the complications now known to occur before the introduction of Gynemesh to the medical marketplace. Such adverse events became apparent after patient experimentation paid for by insurance companies.

j. Animal studies were not done using the currently available PP mesh used in Gynemesh. The original prolene mesh studies were not conducted to the steady state where there is no longer any inflammation. Gynemesh mesh produces a persistent foreign body reaction. (20111213110058384, Elmer C. J Urol 2009;181:1189)

k. Gynecare Gynemesh PS is a heavy weight mesh of 44 gm/m^2 compared to Polyform at 40 gm/m^2 and Popmesh at 19 gm/m^2. Because of the high rate of adverse events, lighter weight meshes are preferred to reduce complications. (KA Jones. Internat Urogyn J Pelvic Floor Dysfunction 2009;20:847-53)

l. Gynecare Gynemesh PS is also a high stiffness mesh when compared to Polyform, Pelvitex and Timesh. This is a detrimental quality since increased mesh stiffness has been correlated with an increased erosion rate. (KA Jones. Internat Urogyn J Pelvic Floor Dysfunction 2009;20:847-53; M Huebner et al. Internat J Obstet Gynec 2006;92:279-88)

m. In the situation where a hysterectomy is done followed by an abdominal sacral colpopexy, some surgeons will place the GYNEMESH down the entire posterior vaginal wall to the perineum for treatment of rectocele. If there is a perineal descent syndrome present, this might be a good choice. In other situations this treatment should be avoided.

8. The placement of Gynemesh in the vagina is dangerous to the patient:

a. The placement violates one of the most basic tenets of surgical teachings in that the placement of a permanent implant into the human through a contaminated surgical field (the vagina can never be sterilized) and makes the implantation by this route contraindicated. With Avaulta 96% of the mesh arms were found to be contaminated with bacteria by culture of specimens removed during the surgical procedure. (Culligan P. Infect Dis Obstet Gynec 2003;11:161, Vollebregt A. Int Urogyn J 2009;20:1345)

b. Even though the bladder is susceptible to injury, cystoscopy is not advised to detect intraoperative injuries during cystocele repair. (Prolene, Gynemesh and Gynemesh PS mesh IFU's from 1996 through today)

c. The size of the mesh placed equates to a very large surface area with many places for bacteria to hide, protected from host defenses. (Mahmoud W. J Biomat Sci Polymer Ed 1996;7:751, Klinge U. J Biomed Mater Res 2002;63:765, Vollebregt A. Int Urogyn J 2009;20:1345)

9. Clinical use has demonstrated many injuries to patients. Items 'a' to 'm' are from the Ethicon funded study of French and US women:

a. Mesh exposure rate was 14% in the US portion of the Ethicon funded study of French and US women. Yet Ethicon allowed minimization of the rate of mesh exposure with Jacquetin reporting 2.4% in the total Ethicon study and Cosson reporting 10% in the

French women in the study. (Prolift IFU after FDA clearance, Jacquetin B. Neurourol Urodyn 2006;25:Suppl. Abst. 291)

b. An unacceptably high urinary incontinence rate of 20% was found in the US portion and 27% in the French portion of the Ethicon funded Prolift study. (01082002)

c. Vesicovaginal fistulae occurred in 2 women the Ethicon Prolift study and this was reported at an international meeting by Jacquetin but, Lucente, reporting on the same group of patients divulged only one such fistula. Ethicon allowed minimization of this serious adverse event. (Jacquetin B. Neurourol Urodyn 2006;25:Suppl. Abst. 291, Lucente V. Neurourol Urodyn 2005;24:Suppl. Abst 406)

d. The number of women in the US portion of the study is reported as 83. (Prolift IFU after FDA clearance, 90 by Lucente V. Neurourol Urodyn 2005;24:Suppl. Abst 406, and 85 by Jacquetin B. Neurourol Urodyn 2006;25:Suppl. Abst. 291). Ethicon allowed this confusion.

e. Severe adverse events with Prolift were reported in 2.4% of the US compared to 10% in the French study population. (080907 includes partial 510k for Gynemesh)

f. The anatomical failure rate with Prolift was unacceptably high at 18% in the French portion of the study at 12 months. (Prolift IFU after FDA clearance)

g. Moderate to severe contraction of the vaginal walls occurred in 3.6% of US patients and 12.6% of French Prolift study patients. (Prolift IFU after FDA clearance, 080907 includes partial 510k for Gynemesh)

h. Pain was unacceptably high postoperatively with Jacquetin reported 7% in the total Prolift study (Jacquetin B. Neurourol Urodyn 2006;25:Suppl. Abst. 291) whereas Cosson reported 14% in French part of study. Ethicon documents place it at a 16% rate in the French part of the study. (Cosson M. IntUrogyn J 2006;17(Suppl 1) S139, 080907 includes partial 510k for Gynemesh). Ethicon allowed minimization of this serious adverse event.

i. One patient had a ureteral stricture in the Prolift study and another had a ureteral injury requiring reimplantation of the ureter which was not reported to the FDA. (080907 includes partial 510k for Gynemesh)

j. A vesicovaginal fistula in the Prolift study was associated with with ureteral reimplantation in one patient. (080907 includes partial 510k for Gynemesh)

k. 76% of French Prolift study patients had one or more adverse events compared to 66% in the US part of the study. (080907 includes partial 510k for Gynemesh)

l. 10% of French Prolift study patients had severe adverse events compared to 2.4% in the US study population. (080907 includes partial 510k for Gynemesh)

m. Vaginal retraction occurred in 13% of French Prollift study patients. (080907 includes partial 510k for Gynemesh)

n. In a draft publication submitted to the International Urogynecology Journal entitled "A Systematic Review of the GYNECARE PROLIFT Pelvic Floor Repair System in Pelvic Organ Prolapse" the Ethicon employee authors concluded that "This review suggests that GYNECARE Prolift has good anatomic success, limited complications and statistically significant improvement in patient reported outcomes". I could find no indication that this was published. (ETH.MESH.00596225-64) This manuscript was rejected for publication in two journals. (ETH.MESH.00578261-63, 01798401-11)

o. In a cytotoxicity test of Ulmsten's Prolene Polypropylene mesh done in 1997, it failed the test by demonstrating moderate toxicity. Ethicon continued to market this mesh. (ETH.MESH.02614726-33)

p. In a power point presentation for GYNECARE PROLIFT+M, Ethicon states that customers are asking for grafts with less foreign material to improve clinical outcomes. It was espoused for younger and active patients. There was no evidence that these goals could be met. (ETH.MESH.00002652)

q. Ethicon was willing to use 3 month data in sales pieces and was willing to launch with soft or no data. (ETH.MESH.00075064-70)

r. In a power point presentation Ethicon acknowledges that the vagina is not the abdomen nor similar to any other surgical environment, yet animal studies were carried out in other locations than the vagina. Ethicon also recognized that the vagina cannot be sterilized. (ETH.MESH.00164606-11)

s. In the TVM study in the US and France, some of the mesh was hand cut, but this was not factored in to the analysis. (ETH.MESH.00401457-58)

t. In a Prolift surgical technique document, Ethicon advises that antiseptic vaginal preparation should occur knowing that the vagina can never be sterilized. (ETH.MESH.00419571-600)

u. In January of 2005, Ethicon spoke to Dr. Cervigni who warned about infection with GYNEMESH for tension free repair in 8% of his cases and if there is an erosion he always sees a low grade fever. He further told Ethicon that mesh contraction causes pain, it causes a hard tissue that can be felt by the patient and partner, the mesh can ball up which is painful, it can lead to suture line dehiscence and prolapse recurrence. (ETH.MESH.00442831-34)

v. February 2015, Ethicon changed the Indications for Gynemesh in the IFU, now limited to "for use as a bridging material for apical and uterine prolapse where surgical treatment (laparotomy or laparoscopic approach) is indicated."

w. In 2006, Ethicon was asked if sexual function data should be used and said that without a solid case for Prolift, this should be avoided. (ETH.MESH.00741137-40)

x. Dr. Butrick voiced concern about Prolift patients with bad myofascial pain stating doctors should not place mesh through these spastic muscles. He doesn't consider that the mesh is causing these spastic muscles. (ETH.MESH.00847816)

y. In November of 2001, Ethicon states that polypropylene is not subject to degradation. Due diligence would have found evidence to the contrary. (ETH.MESH.01160158-59)

z. In a discussion of the 5 week results with the TVT Secur the following were noted: bladder perforation, de novo urgency, persistent urgency, worsening SUI, tape exposure, groin pain and vaginal hematoma. It concluded that there was a lack of serious complications. (ETH.MESH.02289896)

aa. In a report entitled "Investigating Mesh Erosion in Pelvic Floor Repair" in May of 2011 Ethicon acknowledged that commonly noted manifestations of mesh infection are pelvic pain, persistent vaginal discharge or bleeding, dyspareunia and urinary or fecal incontinence. Ethicon also knew that the vaginal infection rate of mesh was expected to be higher than the rate for abdominal implantation. Numerous artifacts were found on the mesh surfaces using high power magnification for Gynemesh PS, Prolift +M, and Prosima where samples of competitor's mesh did not show these artifacts. The cause of Ethicon mesh artifacts was not determined. (ETH.MESH.02589032-72)

bb. In the same report Ethicon acknowledged that polypropylene suffers from degradation, a process that begins a few days after implantation in animal studies through oxidation. The Jongebloed article from 1986 is quoted as an example of degradation and the Costello article showing SEM images of degraded meshes in 2007. Pre-release due diligence of Gynemesh PS and subsequent products for sale would have alerted Ethicon of these issues with polypropylene mesh. (ETH.MESH.02589032-72)

cc. In August of 2008, Ethicon discusses T-Pro and states that there is no patient-centric pelvic floor material, that pelvic floor materials are still over-engineered and that we need less foreign body material. Ethicon proposes that different mechanical properties are needed in different areas of the pelvic floor. The post-implantation scar tissue and scar plate formation is not recognized to alter mechanical properties. (ETH.MESH.03021946)

dd. In a discussion of meshes for pelvic floor repair in June of 2000, Ethicon was told regarding Prolene/Gynemesh that it was too thick and bulky, too stiff, and releases particles when cut. The interviewed physicians thought that the mesh was inert and well tolerated. (ETH.MESH.03904451-80)

ee. In August of 207, Ethicon discusses ureteral injury in 6 patients and acknowledged that this was not mentioned in the PROLIFT IFU. (ETH.MESH.04096233-34)

ff. In a communication to the FDA regarding the marketing of Prolift without FDA notification, Ethicon attempts to convince the FDA that it was an insignificant change from Gynemesh PS to Prolift as it was considered to be a line extension of Gynemesh PS consisting of a shape change and the addition of insertion tools to create a procedural kit. This would indicate that the FDA was supposed to accept this information transforming a sheet of mesh into a surgical procedure complete with instructions on how to perform the procedure. (ETH.MESH.01383-01637)

gg. In 2002 Ethicon held a TVT Summit Gynemesh PS panel where a strategy was discussed to convert high volume pelvic floor surgeon specialists who can publish and

document good results with Gynemesh PS and support Gynecare's leadership. (ETH.MESH.08158-20115)

hh. In November of 2004, Ethicon stated "cadaveric evaluations of prototype Prolift components have demonstrated that these devices and the system as a whole are suitable for performing pelvic floor repairs". What about in live women? (ETH.MESH.41142)

ii. Ethicon wanted to know if it could rely on Prolift data to support Prolift+M, or, will we be reliant on the new +M data? No need to study a new product? (ETH.MESH.049512-916)

jj. Ethicon discussed 4 cases of inability to void after Prolift surgery which took a year to resolve. "But, if this gets reported, it is going to scare the daylights out of docs". There is no record of this being told to physicians. (ETH.MESH.80249)

kk. In August of 2005, Ethicon is warned by Dr. Linda Cardozo that the Prolift safety profile is worrying especially since there is no efficacy data to review. Her concern was about the severity and type of complications in the perioperative period. (ETH.MESH.02923305-06)

ll. In a discussion of mesh, Ethicon compares propylene mesh to rebar in concrete. It also believes that to maximize sexual function, use soft/flexible material. Scar plate formation is not mentioned. (P1593.Depo exhibit 127)

mm. Ethicon states that in the absence of strong clinical evidence the surgeon will have to rely on other sources of information: science of textiles and hernia surgery. The difficulties in finding hard data is mentioned as is the fact that the prosthetic material is placed through a septic cavity and there is a high risk of infection especially since there are tiny spaces known as interstices which can harbor bacterias. Ethicon also acknowledges that mesh shrinkage occurs and may be associated with mesh stiffness and tenderness, dyspareunia, pelvic pain urinary or defecatory dysfunction and prolapse recurrence. With Prolift the shrinkage rates were 0-17%. (SP1659)

nn. In a discussion of publications for Prolift +M, no publications are listed.

oo. In 1996, Julian reported a series of patients using Gynecare Gynemesh which was anchored anteriorly and posteriorly as well as laterally in the pelvis. He recommended that this mesh be used only after 2 surgical failures and should not be used as a primary procedure. The erosion rate was 4%. (Am J Obstet Gynec 1996;175:1472-5)

pp. In 1998, Nicita et al reported a series of patients using Gynecare Gynemesh which was only anchored laterally in the pelvis. They recommended longer term studies. The erosion rate was 2.2% in 44 patients. (J Urol 1998;160:741-5)

qq. In 2000, Mighari et al reported a series of patients using Gynecare Gynemesh which was only anchored anteriorly and posteriorly. There were no erosions in 12 patients. They advised a long term study. (Eur Urol 2000;38:151-5)

rr. In 2002, DeTayrac et al reported a series of patients using Gynecare Gynemesh which was placed from the retropubic space to the inferior part of the bladder. During a followup of 18 months the vaginal erosion rate was 8.3%. (J Gynec Obstet Biol Repro (Paris) 2002;31:597-9)

ss. In 2004, Bader et al which was placed from under the bladder to the para-vesical spaces bilaterally in contact with the arcus tendineous fascia pelvis. No fixation was done. Of 40 women the erosion rate was 7.5%. In this series 75% were incontinent and had a concomitant TVT device implantation. Mean follow up was 16.4 months +/- 4.7 months. (Bader G et al. Gynecol Obstet Fertil 2004;32:280-4)

tt. In 2005, de Tayrac et al reported a series of patients using Gynecare Gynemesh which was placed from the retropubic space to the inferior part of the bladder. During follow up of 24 +/- 9.6 months the vaginal erosion rate was 8.3%. (J Reprod Med 2005;50:75-80)

uu. In 2006, the inventor of the Ethicon Prolift kit published indicating that it was a safe procedure to correct pelvic organ prolapse. There was no acknowledgement of this conflict of interest in the manuscript. (Fatton B, Dibodinance P, Cosson M, Jacquetin B. IUJ 2006)

vv. In 2006, Benhaim et al, reported on a series of patients using Gynecare Gynemesh for treatment of cystocele, rectocele together or separately. Of the 20 women in this study, 17 had had prior mesh insertion. The anterior vaginal erosion rate was 10%. Twenty-six percent experienced sexual deterioration and 4 patients developed de novo dyspareunia. (Benhaim Y et al.J Gynecol Obstet Biol Reprod (Paris) 2006;35:219-26)

ww. In 2006, de Tayrac et al reported a series of patients using Gynecare Gynemesh for rectocele which was placed from the sacrospinous ligaments to the perineum. During a median follow up of 22.7 +-/ 9.2 months the vaginal erosion rate was 12% and the de novo dyspareunia rate was 7.7%. (Internat Urogyn J Pelvic Floor Dysfunct 2006;17:100-5)

xx. In 2006, de Tayrac et al reported a series of patients using Gynecare Gynemesh for cystocele which was only anchored anteriorly and posteriorly. They reported a 9.1% erosion rate, 16.7% with dyspareunia, and 5.5% with pain. They concluded that the mesh had to be improved and randomized clinical trials needed before recommended in clinical practice. (R deTayrac et al. Internat Urogyn J 2006;17:483-8)

yy. In 2007, Deffieux et al reported a series of patients using Gynecare Gynemesh compared to Gynecare Gynemesh PS which was not anchored in any fashion. In the former the erosion rate was 16% and in the latter they reported a 24% erosion rate. 55% of the entire group required mesh removal. The dyspareunia rate was 9% in patients with vaginal erosion and 11% in patients without erosion. (X Deffieux et al. Internat Urogyn J 2007;18:73-9)

zz. In 2007, a study of Prolift prolapse repair found visceral injury in 4.4% of patients. (Altman et al. ObstGynec 2007;109:303)

aaa. In 2007, a retrovesical hematoma was reported with Anterior Prolift. (Ignjatovic et al. IUJ 2007;18:1495)

bbb. In 2008, in a study of Prolift on a teaching service found few perioperative complications, however, 34% required catheterization for urinary retention prior to discharge. (Alperin et al. IUJ 2008;19:1617)

ccc. In 2008, in a 6 month study of Prolift prolapse repair, during the first month abscesses, hematomas, vesicovaginal fistulas, a rectovaginal fistula and one pelvic cellulitis. Subsequently, 11.3% erosions, 11.7% retractions, 5.4% de novo stress incontinence and 6.9% recurrences of prolapse were found. (Caquant et al. J Ob Gyn Res 2008;34:449)

ddd. In 2008, a study of Prolift treatment of prolapse found a 16.7% dyspareunia rate. (Lowman et al. AJOG 2008;199:707.e1-707.e6)

eee. In 2008, Prolift treated patients showed significant anatomic and quality of life improvements. (van Raalte et al. AJOG 2008;199:694.e1-694.e6)

fff. In 2009, Letouzey et al reported on the shrinkage rate of Gynemesh after implantation for cystocele repair over a 9 year period in 40 patients evaluated with ultrasound. They found a 10% per year shrink rate up to 85% at 8 years. (Int Urogyn J 2009; 20 (Suppl.2): S205-6)

ggg. In 2009, a study of Prolift prolapse repair found a 6.6% visceral injury rate, a 24.3% de nove stress incontinence rate and 18% had pelvic muscle dysfunction symptoms. (Aungst et al. AJOG 2009;201:74.e1-7)

hhh. In 2009, in a study of Prolift prolapse repair anatomical success for cystocele was 79%, bladder and rectal perforation rate was 3.4% and vaginal erosions in 11%. (Elmer et at. ObstetGynec 2009;113:17)

iii. In 2009, a study of Gymemesh mesh contraction showed that Gynemesh contracted at a rate of 10% per year, up to 85% at 8 years. (Letouzey et al IUJ 2009;20 (suppl 2):S205)

jjj. In 2009, 2 cases of Prolift deep dyspareunia requiring multiple excisions of apical mesh. (Walid et al. Arch Gyn Ob 2009;DOI 10.1007)

kkk. In 2009, a Prolift study showed a 73% satisfaction rate and low complication rate and significant anatomical improvement. (Wetta et al. IUJ 2009:DOI 10.1007)

lll. In 2010, a study of prolapse repair using the Prolift system showed good anatomical success and symptom improvement over 2 years. (Huang et al. IUJ DOI 10.1007)

mmm. In 2010, Lin et al reported a series of patients using Gynecare Gynemesh for cystocele and rectocele with the mesh being placed from the bladder or rectum to the white line on the pelvic sidewall. Anteriorly the mesh was fixed anteriorly and posteriorly and posteriorly it was fixed to the sacrospinous ligament and the perineum. In the 39 women in this study. The complication rate was 10.3% with a 2.6 % erosion rate. (Lin TY et al. J Obstet Gynec Res 2010;36:1059)

nnn. In 2010, an ultrasonographic study of Prolift mesh contraction found that of 91 patients, >50% had severe contraction and prolapse recurrence appeared to be associated with loss of mesh support. (Velemir L. Ultrasound Ob Gyn, 2010;35:474)

ooo. In 2010, in a study of anterior Prolift results, this procedure was found to provoke prolapse in other not treated compartments of the vagina. (Withagen et al. IUJ 2010; 21:271)

ppp. In 2010, the inventor of the Prolift Kit for Ethicon stated that "Medium-term results demonstrate that the TVM technique provides a durable prolapse repair in spite of a 20% anatomical failure at 3 years and a 14.4% rate of mesh extrusion. (Jacquetin et al. IUJ 2010;21:1455)

qqq. In 2010, Prolift surgery in women over the age of 80 showed retention in 25.8%, moderate to severe pain in 17.7% and recurrence in 8.3%. (Gabriel et al. IUJ 2010; 21:1463)

rrr. In 2010, ultrasound evaluation of Prolift mesh postoperatively compared to the preoperative measurements, showed folding at 4 days post surgery and a further reduction in mesh length later. (Svabik et al. IUJ 2010;DOI 10.1007)

sss. In 2011, in a study of Anterior Prolift for recurrent bladder prolapse there was a 53% anatomical success rate and an exposure rate of 19%. (Fayyad et al. 2011;22:157)

ttt. In 2011, a study of Prolift versus native tissue repair on sexual function and improvement was noted on the native tissue arm and deterioration was noted on the mesh arm and mesh exposure was independently associated with deterioration in the mesh arm. (Milani et al. J Sex Med 2011;DOI:10.1111)

uuu. In 2011, in a study of Prolift for prolapse repair over 6 months there were 5.3% failures and 12.3% rate of exposures. (Kaufman et al. IUJ 2011;22:307)

vvv. In 2011, a study comparing Prolift with abdominal sacral colpopexy using Prolene showed that "At 2 years, the laparoscopic sacral colpopexy had a higher satisfaction rate and objective success rate than the total vaginal mesh with lower perioperative morbidity and reoperation rate. (AJOG 2011;204:360.e1-7)

www. In 2011, a comparison of anterior colporrhaphy and the Prolift mesh kit was published indicating that the mesh kit resulted in higher rates of surgical retention, vaginal dehiscence and pelvic or genital pain. (Altman et al. NEJM 2011;364:1826)

xxx. In 2011, in a comparison of native tissue prolapse repair and Prolift mesh repair, the anatomical results were better mesh, yet symptom decrease and quality of life were equal in both groups. (Withagen et al. ObstetGynec 2011;117:242)

yyy. In 2011, after Prolift vaginal repair the reoperation rate was 11.6% for urinary incontinence, mesh related complications and prolapse recurrence. (de Landscheer et al. AJOG 2015;205:xxx)

zzz. In 2011, a study of the Prolift +M showed that the anatomical success rate was 77.4% and the mesh exposure rate was 10.2% at 1 year. (Milani et al. AJOG 2011;204:74.e1-8)

aaaa. In 2011, Miller et al reported a series of patients using Gynecare Gynemesh PS for multiple compartments which was anchored by the TVM technique. The erosion rate was 18.8% and the dyspareunia rate 3.5%. There was one rectovaginal fistula, 2 ureteral injuries and one ureterovaginal fistula. (D Miller et al. Female Pelvic Med Reconstr Surg 2011; 17:139-43)

bbbb. In 2011, a study of Prolift for prolapse revealed that it had an 85% anatomical success in the medium term but with a 15% mesh exposure rate. (Nair et al. Eur J ObGyn Repro Biol 2011;158:358)

cccc. In 2011, the effects of the Prolift procedure on bladder function were found to be a reduced storage function and impaired bladder capacity with reduced urethral closure pressure. (Su et al. IUJ 2011;22.285)

dddd. In 2012, a study of the Prolift kit for anterior prolapse showed an 18.2% erosion rate. (Vaiyapuri et al. Sing Med 2012;53:664)

eeee. In 2012, a study of Prolift prolapse repair found that sexual function was not negatively affected 12-18 months after surgery. (Bartuzi et al. Eur J ObGyn Repro Biol 2012; 165:295)

ffff. In 2012, Prolift prolapse repair was compared to sacrospinous ligament suspension for vault prolapse and showed recurrence rates of 16.9% and 39,4% respectively. The mesh exposure rate was 20.8%. (Halaska et al. AJOG 2012;207:301e.1-7)

gggg. In 2012, in a comparison of Gynemesh and Prolift repair of prolapse anatomical outcomes were comparable as were adverse events. (Chen et al. Eur J ObGyn Repro Biol 2012;164:221)

hhhh. In 2012, in a study of elderly women treated for prolapse with Prolift showed a 97.1% success rate, but with 29.4% de novo stress incontinence, 22.2% de novo dyspareunia and a 1.5% erosion rate. (J Min Inv Surg 2012; 19:307)

iiii. In 2012, in a study of Prolift efficacy and complications after 4.5 years found that it was efficacious with a 14.7% failure rate and the following adverse events were reported: de novo OAB and stress incontinence, erosion, dyschesia, constipation, pelvic pain, chronic urinary retention and pain requiring surgery. (Benbouzid et al. Int J Urol 2012;19:1010)

jjjj. In 2012, prolapse repair with Prolift was compared with native tissue repair and found that with Prolapse there was a higher rate of de novo prolapse in other non-treated compartments than with native tissue repair. (Withagen et al. BJOG 2012;119:354)

kkkk. In 2012, in a comparison of native tissue repair and Prolift mesh repair found that the two procedures had similar objective and subjective improvement, but mesh repair had a higher reoperation rate and did not improve 1 year cure. (Sokol et al. AJOG 2012; 206:86.e1-9)

llll. In 2013, in a study of Prolift prolapse repair, it was found a mesh exposure rate of 13%. (Alperin et al. Fem Pelv Med Recon surg 2013;19:72)

mmmm. In 2013, in an ultrasound study of Anterior Prolift found a correlation between mesh contraction with the severity of vaginal pain and de novo OAB symptoms. (Rogowski et al. IUJ DOI 10.1007)

nnnn. In 2013, in a comparison of the Prolift total vaginal mesh kit with sacral colpopexy using Ethicon mesh sheet showed that in obese women the colpopexy group had better anatomical outcomes. (McDermott et al. J ObGyn Canad 2013,35:461)

oooo. In 2013, Prolift was found to have a 12% mesh exposure rate which was greater anteriorly (8.7%) than posteriorly (2.9%). (Frankman et al. ObGyn Internat 2013;article ID 926313)

pppp. In 2013, traditional vaginal prolapse surgery was compared to Prolift mesh kit implantation, and because of an erosion rate of 15.6% the study was stopped prematurely. There was no difference in cure rates between the two groups. (Gutman et al. ObstetGynec 2013;122:770)

qqqq. In 2013, Prolift +M was reported to have a 2.2% exposure rate and a 6% de novo dyspareunia rate. (Khandwala S. Female Pelvic Med Recon Surg 2013;19:84)

rrrr. In 2014, a study of Prolift for anterior prolapse repair with and without mid-urethral slings found that the addition of a mid-urethral sling decreased the incidence of OAB symptoms from 23.3% with Prolift alone to 10.5% when a sling was added. (Futyma et al. Ginekol Pol 2014;85:652)

ssss. In 2014, an erosion rate for the Prolift mesh kit was reported to be 5.6%. (Khan et al. ActaGynOb 2014;290:1151)

tttt. In 2015, a study of Prolift post-operative voiding difficulties and complications found that 31.25% of patients demonstrated this problem. (Zhang et al. Menopause 2015;22:885)

uuuu. In 2015, a randomized trial of native tissue repair compared to Prolift kit repair revealed that complications were significantly higher in the mesh group. (da Silveira et al. IUJ 2015;26:335)

10. Gynecare Gynemesh basic science articles:

a. In 2010, Svabik performed ultrasound evaluations of implanted mesh to determine shrinkage in length of the Gynecare Gynemesh. A 16 to 20% rate of decreasing length by shrinkage was found after 3-4 months. (K Svabik et al. Ceska Gynekol 2010;75:123-5)

b. In 2006, Krause studied the biocompatibility of Gynecare Gynemesh in rats along with four other meshes. The results with all type I mesh types were the same. (HG Krause et al. Aust N Z J Obstet Gynec 2006;46:42-5)

c. In 2013, Liang et al studied vaginal degeneration in primates with meshes of increased stiffness using Gynecare Gynemesh PS compared to two other lower stiffness meshes. The stiffer Gynecare Gynemesh PS had the greatest negative impact on vaginal histomorphology and composition. This mesh caused a substantial thinning of the vaginal smooth muscle layer, increased apoptosis in the area of the mesh fibers, decreased collagen and elastin content and increased collagenase activity. Glycosamineglycan, a marker of tissue injury, was highest with Gynecare Gynemesh PS. This mesh induced a maladaptive modeling response consistent with vaginal degeration. (Liang et al. BJOG 2013;120:233-43)

d. In 2013, Feola et al. studied deterioration in biomechanical properties of the vagina after implantation of a high-stiffness mesh in the form of Gynecare Gynemesh PS compared to two lower stiffness meshes. The greatest reduction in vaginal contractility occurred with Gynecare Gynemesh PS at 80% reduction and the tissue contribution to the passive mechanical behavior of the mesh-vaginal complex was drastically reduced for Gynecare Gynemesh PS. (A Feola et al. BJOG 2013;120:224-32)

e. In 2013, Feola et al reported on the structural properties of synthetic meshes. Gynecare Gynemesh PS was compared to four other meshes. Porosity decreased by 21% for Gynecare Gynemesh PS while Poliform decreased by 28%. These two meshes were 60% and 42% stiffer respectively, than two other meshes. (Int Urogynecol J 2013;24:559-64)

f. In 2013, Edwards found that newer fabricated meshes were uniaxially less stiff than Gynecare Gynemesh PS. (SL Edwards et al. J Mech Behav Biomed Mater 2013;23:53-61)

g. In 2014, at the joint AUGS/IUGA meeting, Moalli in a workshop handout states that Gynemesh PS, a heavier weight, lower porosity, stiffer mesh, causes a 60% decreased in thickness of the vaginal muscularis, a 170% increase in apoptotic cells, and decreased collagen in the grafted vagina. The stress shielded vagina “then undergoes maladaptive remodeling characterized by degeneration and atrophy (loss of collagen, elastin and muscle)”. “Prosthetic devices that are significantly stiffer than the native tissue they are designed to augment are associated with increased rate of long term complications”. (augs-iuga2014.org/d/do/3031)

h. In 2014, in a study of Prolift pore changes under load, it was shown that there was a complete loss of porosity. (Otto et al. J Biomed Mater Res Part A2014;102A:1079)

i. Ethicon was aware that the Prolene Soft mesh had significantly different pore sizes down to 0.29mm. (ETH-83788)

j. In 2008, Ethicon said that the pore size was 2.1mm. (ETH.MESH.02212838)

k. In a discussion of the final 6 month TVM safety data, Ethicon comments that it is a great surprise that we have miraculously managed to reduce the failure rate from 15.2% to 12%. This information was to be presented in 2 weeks at an international meeting. (ETH.MESH.02095523)

l. In 2004, in a discussion of a clinical expert report that indicated that the product is to be used to "obtain an in-vivo assessment of system performance" and to confirm "that evaluations made in cadaveric specimens reflect actual use". It appeared that Ethicon was entering into a clinical investigation and not a post-market study. (ETH.MESH.02280771-72)

m. In a clinical expert report on Gynemesh, Ethicon acknowledges that the mesh is passed through a contaminated field and infection is a theoretical risk and in a series of patients no erosion was described. It was also deemed to be safe and efficacious based on the large scale use of predicate devices. (ETH.MESH.01154031)

n. In a discussion of lessons learned from the Prolift experience in 2008, needle passages seemed to be the best for Prolift, but Ethicon is sure that the next generation products will get rid of these needle passages and the fear of major bleeding and nerve injuries. Two common injuries remain: exposure and shrinkage. (ETH.MESH.01218423-24)

o. In 2004, Dr. Cosson relates that he has seen tissue tearing many times and the mesh already shrinking at the end of the procedure. (ETH.MESH.00900574-75)

p. In 2006, Ethicon was aware that since there are irregular pore geometries and pore sizes, it is not accurate to report a distinct pore size. (P1565.ETH-83454-55)

q. In an Ethicon document entitled "When the implant worries the body", Ethicon states that "no mesh is the best mesh". (ETH.MESH.02587926)

r. In a discussion of Gynemesh and mesh strategy, it is suggested that the animal studies be bypassed and go direct to patient implantations. (ETH.MESH.03160750)

s. In a mesh discussion, Ethicon states that fibrosis is more pronounced in meshes with small pores forming scar plates rather than scar nets in meshes with large pores. (ETH.MESH.00152985-013)

t. In October of 2008, Ethicon stated that polypropylene is the best of a bad lot re integration and retraction. Need to develop grafts that mimic human tissue mechanical properties. Ethicon still overlooks the fact that with fibrosis and scar plate formation the end result of the graft cannot be predicted. (ETH.MESH.00271215)

u. In 2015, Badylak, states "…the vagina undergoes a maladaptive remodeling response following Gynemesh PS implantation…". (Host Response to Biomaterials, Stephen F. Badylak, Editor, 2015, Academic Press, ISBN 9780128001967)

v. In 2015, Liang et al reported on the effect of mesh on the metabolism of vaginal extracellular matrix in primates. Gynecare Gynemesh PS was found to have a degradative impact on the metabolism of both collagen and elastin which exceeded the synthesis of these compounds. (R Liang et al. Am J Obstet Gynec 2015;212:174.e1-7)

w. In 2015, Jallah et al reported that mesh stiffness of Gynecare Gynemesh PS was a significant predictor of the negative affect on muscle function and nerve density in primates. (Z Jallah et al. BJOG 2015;Aug 20)

x. In an undated abstract, Jallah et al of the University of Pittsburgh, Magee Women's Hospital, state referring to Gynemesh PS implantation "…that mesh implantation increased smooth muscle cell apoptosis, and decreased smooth muscle thickness, function, and innervation in the underlying grafted tissue, all of which could contribute to the high complication rates reported". (https://imgsvr.eventrebels.com/ERImg/00/91/88/2338073/27532-2-10311.pdf

11. Gynecare Gynemesh PS specific documents from Ethicon:

a. When discussing a new mesh design for Gynemesh in August of 1998, Ethicon states "At this time it was recognized that PROLENE is far from being the ideal material for…" repair of anterior prolapse. Ms. Angelini stated without evidence that the product "was better than the alternatives available for patients" and "absolutely the right thing to do". (ETH.MESH.12009028-35, Angelini Deposition 6-19-15 p. 32)

b. In this same document, Ethicon states that the Gynecare division should launch this product for the following reasons: to increase awareness of mesh for prolapse repair, gain entry into this market before competitors, seek out key surgeons and product champions and to allow time to do market research into what the ideal product for this indication might be. There is no indication that the patient might benefit from this new product. (ETH.MESH.12009028-35)

c. In this same document Ethicon states that "In this case absorption is not an issue, as the mesh would be permanent." Due diligence was not done to reveal that polypropylene degrades in the body and is not permanent. (ETH.MESH.12009028-35)

d. Ethicon also recognizes the "potentially highly infectious site of implantation (the vagina)." Ethicon did not warn physicians of this fact. (ETH.MESH.12009028-35)

e. In this same document Ethicon discusses the disadvantages of native tissue prolapse repair: vaginal narrowing, compromising sexual function, incomplete relief of symptoms, and the emergence of new symptoms not there before implantation, such as, incontinence, incomplete fecal emptying. Ethicon had not studied this device to recognize that these same symptoms and many more would occur after Gynecare Gynemesh implantation. (ETH.MESH. 12009028-35)

f. In an email chain between various Ethicon employees regarding replacing Gynemesh PS with Ultrapro mesh with Mr. Kammerer stating that "…if we substitute UltraPro we would like to say it produces, either less scar, a softer scar, less scar contraction or the potential for less contraction based on the collagen deposition of the myofibroblast." This would indicate that Ethicon was not pleased with the scar formation or its contracture in patients. (ETH.MESH.03915567-72)

g. In a Next Generation Mesh Discussion document, it is assumed that MINT will use GYNEMESH PS (even though UltraPro is available) but a technical assessment of UltraPro compared to GYNEMESH PS would be completed for competitive reasons to decide if UltraPro should be considered for Pelvic Floor, while continuing basic science research to define requirements for the next generation mesh. Ethicon is looking for a better mesh than Gynemesh PS. (ETH.MESH.05246527-28)

h. In an email discussion it is asked "Have any ideas on gynemesh erosion where only jagged edges are sticking out…I see 4 'whiskers' only but it's a painful French tickler for the patient's husband." Ethicon is noting that this is a problem with Gynemesh. (ETH.MESH.03738826-27)

i. In an email discussion of a conversation with Prof. Jacquetin, it is related that this prominent French physician gave his opinion that Ethicon should focus on reducing the stiffness of the area after incorporation of the material and the shrinking effect in the search for the ideal material. He felt that the mesh was too stiff. (ETH.MESH.02770857-58)

j. Prof. Jacquetin went on to say "do not repeat the same mistake that you have done with TVT, once launched you have been closed to innovation until you were forced into it". He wanted Ethicon to look immediately into what can be improved. (ETH.MESH. 02770857-58).

k. In a 91 day study of tissue reaction in the subcutaneous tissue of rats, the following statement was generated and placed in the Prolift IFU according to Dr. Charlotte Owens, World Wide Medical Director for Ethicon who signed off on the safety and efficacy of Prolift before marketing: "Animal studies show that implantation of Gynecare Gynemesh PS mesh elicits a minimum to slight inflammatory reaction, which is transient and is followed by deposition of a thin, fibrous layer of tissue which can grow through the interstices of the mesh, thus incorporating the mesh into adjacent tissue. The mesh remains soft and pliable, and normal wound healing is not noticeably impaired. The material is not absorbed, nor is it subject to degradation or weakening by the action of tissue enzymes". The mesh was not placed in the vagina of a living human to generate this information, only the subcutaneous tissue of rats. The duration of this study (91 days) would be insufficient to determine the presence or absence of the mesh being absorbed, i.e., mesh degradation. (ETH.MESH.02341454-65, Barbold deposition 10-10-12, pages 297-8).

l. In this same study there was evidence of fibrotic bridging which could lead to scar plate formation. Ethicon did not take this into consideration and did not know in which patients this might occur. (Barbold deposition 10-10-12, pages 493-4)

m. Dr. Hinoul World Wide Medical Affairs Director for Ethicon in his sworn testimony indicated that physicians could rely on this information. (ETH.MESH.02341454-65, Barbold deposition 10-10-12, page 306).

n. In an Ethicon discussion of constructing a Gynemesh Vypro combination product for use in pelvic floor repair, it is stated that there is "Positive anecdotal clinical evidence of safety and efficacy of Vypro for repair of vaginal wall prolapse in Europe." It also restates the Ethicon position that Prolene Soft Mesh is "too stiff for use in vaginal tissues". (Project Gynemesh Vypro PD 00/3,ETH.MESH.00959923, T-3743)

o. In this discussion Option 1 is to pursue pelvic floor indication for Prolene Soft mesh. Ms. Angelini agrees that this was a hernia mesh. (Project Gynemesh Vypro PD 00/3, ETH.MESH.00959923, T-3743, Angelini deposition 6-19-15 page 142-143)

p. In the Hellhammer deposition, she recalled that the Gynemesh Vypro Project was trying to "create a mesh with larger pores to prevent bridging fibrosis and complications in the pelvic area." This indicates that Ethicon was aware of this issue. (Hellhammer deposition 9-12-13, p. 430)

q. In this deposition she further indicates that UltraPro is lighter than Gynemesh PS with larger pores of 3-5mm compared to Gynemesh's 0.3 to 2.4mm. (Hellhammer deposition 9-12-13, p. 571)

r. She indicates that the learnings from hernia repair proves that UltraPro causes less inflammation than traditional meshes, induce less fibrosis, generate less foreign body reaction, better integrated to host tissues, provokes less pain, improves quality of life with outstanding biocompatibility. She believed all these statements. Ethicon had no evidence that UltraPro would behave as indicated above when implanted into the vagina. (Hellhammer deposition 9-12-13, p. 573-4)

s. She also discusses a Gynemesh PS mesh that was implanted in a cadaver where the mesh arms were rolling and appeared to be crumbling. Ethicon did not incorporate these findings into its product development. (Hellhammer deposition 9-12-13, p. 574-5)

t. She further discusses the over-engineering of meshes for hernia repair and that it was a problem due to the fact that the meshes were too rigid and not as elastic as the tissue into which it was implanted. This rigidity would lead to complications. This same mesh was then used in pelvic floor repair. (Hellhammer deposition 9-12-13, p. 577-8)

u. In an email chain between Ethicon employees in November of 2006, Ethicon states that "UltraPro could be a solution for this problem" of mesh shrinkage. Shrinkage is stated to be a problem with Prolift mesh which "can be more severe than erosion". (ETH.MESH.03915790-92)

v. In this same email chain Ethicon states that it was a bit "frightened to see that we are currently building a full business story on that, not having yet validated the proof of concept, neither from animal experiments nor from clinical use". Ethicon indicates that it has no information in any form from implantations of UltraPro. (ETH.MESH.03915790-92)

w. Find option 1 pursue pelvic floor indication for Prolene Soft Mesh which is a hernia mesh

x. Ethicon further states that the UltraPro could be introduced on the market "since the concept of light mesh is appealing on a surgical standpoint". Ethicon would introduce to the market with only intuitive data. (ETH.MESH.03915790-92)

y. Ethicon goes on to say that a comparative study would not be the best option as it would be expensive, long and risky. Ethicon is willing to put on the market without regard for human safety, and would avoid a study due the risk of adverse outcomes from the study for the product. (ETH.MESH.03915790-92)

12. Many patients had implants of Gynemesh since the early 2000's. The following from 'a' to 'o' are from the FDA's MAUDE database covering the years 2005 to 2008 and represent the numbers of patients with these serious adverse events which was or should have been known to Ethicon (Accessed November 2015):

a. Vesicovaginal Fistula-1

b. Rectovaginal fistula-1

c. Ureteral obstruction-3

d. Ureterovaginal fistula-1

e. Pain-5

f. Vaginal pressure-1

g. Vaginal discharge-1

h. Vaginal stenosis-2

i. Hematoma or serious bleeding-3

j. Bleeding-5

k. Mesh exposures-31

l. Dyspareunia-7

m. Scarring-1

n. Placed in bladder-2

o. Prolape recurrence-4

13. In 2010, Chien reported a patient treated for prolapse with transvaginal Gynecare Gynemesh who developed a retroperitoneal abscess, ileosacral arthritis with osteolysis. She experienced left buttock pain extending to the lower limb. (HW Chien. Int Urogynecol J 2010; 21:753-5)

14. Clinical trials were paid for by insurance companies even though the procedure was noted to be experimental by the American College of Obstetricians and Gynecologists. (ACOG Practice Bulletin #79, Pelvic Organ Prolapse, February 2007)

15. Claims:

a. Long lasting stabilization of fascial structures in vaginal wall prolapse. There is no fascia between either the bladder or the rectum and the vaginal epithelium except in the distal ~1.5 cm of the posterior vaginal wall. (Prolift IFU, 2004, and Prolift IFU after clearance, Weber A. Obstet Gynec 1997;89:311)

b. Bridging of fascial defect although there is no fascia to bridge. (Prolift IFU, 2004, and IFU after clearance, Weber A. Obstet Gynec 1997;89:311)

c. Gynemesh mesh is inert (not degradable). Polypropylene degrades in the human body. Prolene mesh was shown to be not inert in 2003 with flaking and fissuring demonstrated by scanning electron microscopy. (Prolene, Gynemesh and Gynemesh PS most mesh IFU's from 1996 through today; Prolift IFU 2004, and Prolift IFU after clearance; Coda A. Hernia 2003;7:29; and confirmed in Yahi Y. Int Urogyn J 2007;18(Suppl 1):S6, Cosson in Volpe 2012-02-29 1029 on Feb 23, 2007)

d. Not subject to weakening by the action of enzymes. During degradation the mesh is weakened. (Prolene, Gynemesh and Gynemesh PS most mesh IFU's from 1996 through today; Prolift IFU 2004 and Prolift IFU after clearance; and number "c" above, Sternschuss G. J Urol 2012;188:37-32)

e. Reported to be non-reactive. Polypropylene Gynemesh mesh causes a persistent inflammatory reaction (Gynemesh IFU 2007; Prolift IFU 2004 and Prolift IFU after clearance; Yahi Y. Int Urogyn J 2007;18(Suppl 1): S149)

f. Mesh doesn't weaken. During degradation the mesh weakens. (Prolift IFU 2004 and Prolift IFU after clearance; Sternschuss G. J Urol 2012;188:27-32; Cosson in Volpe 2012-02-29 1029 on Feb 23, 2007)

g. Mesh remains soft and pliable. The presence of the mesh and its subsequent degradation demonstrates moderate to severe vaginal retraction. (Prolene, Gynemesh and Gynemesh PS most mesh IFU's from 1996 through today; Prolift IFU 2004 and Prolift IFU after clearance)

h. Mesh elicits a minimum to slight inflammatory reaction which is transient. The inflammatory reaction is persistent. (Prolene, Gynemesh and Gynemesh PS IFU's from 1996 through today; Prolift IFU 2004 and Prolift IFU after clearance; Yahi Y. Int Urogyn J 2007;18(Suppl 1): S149)

i. Monofilaments identical to PP suture. (Prolene, Gynemesh and Gynemesh PS IFU's from 1996 through today; Prolift IFU 2004 and Prolift IFU after clearance)

j. Extruded polypropylene reported to be non-reactive. In 1986 Jongebloed showed prolene suture to be reactive and degraded. (Prolene, Gynemesh and Gynemesh PS IFU's from 1996 through today; Prolift IFU 2004 and Prolift IFU after clearance; Yahi Y. Int Urogyn J 2007;18(Suppl 1): S149; Jongebloed W. DocOphth 1986;64:143)

k. PP sutures with long established history of safe clinical use. In 1986 Jongebloed showed prolene suture to be reactive and degraded. (Prolift IFU 2004 and Prolift IFU after clearance; Yahi Y. Int Urogyn J 2007;18(Suppl 1): S149; Jongebloed W. DocOphth 1986;64:143)

l. Mesh with long established history of safe clinical use. See MAUDE data base discussion above (Accessed April 2012)

m. Bidirectional elasticity allows adaptation to stresses in the body. Once implanted and the deposition of collagen occurs the mesh is no longer pliable. (Prolene, Gynemesh and Gynemesh PS IFU's from 1996 through today; Prolift IFU 2004 and Prolift IFU after clearance; Ethicon study with moderate to severe vaginal retraction)

n. Retains strength indefinitely in clinical use. During degradation the mesh is weakened. (Prolene, Gynemesh and Gynemesh PS most mesh IFU's from 1996 through today; Prolift IFU 2004 and Prolift IFU after clearance; and number "c" above, Sternschuss G. J Urol 2012;188:27-32)

o. Mesh affords excellent surgical adaptability. With vaginal retraction caused by scarification the mesh is no longer adaptable. During degradation the mesh is weakened. (Prolene, Gynemesh and Gynemesh PS IFU's from 1996 through today; Prolift IFU 2004 and Prolift IFU after clearance; and number "c" above, Sternschuss G. J Urol 2012;188:27-32)

p. Not subject to weakening. During degradation the mesh is weakened. (Prolene, Gynemesh and Gynemesh PS IFU's from 1996 through today; Prolift IFU 2004 and Prolift IFU after clearance; and number "c" above, Sternschuss G. J Urol 2012;188:27-32)

q. No issues of safety or efficacy in US and French studies. Examples of lack of safety and of poor efficacy are found in the Ethicon sponsored study. (20111213110058384, Prolift IFU after FDA clearance)

r. Fascial tissue in abdomen comparable to that in pelvis. There is no fascia between either the bladder or the rectum and the vaginal epithelium except in the distal ~1.5 cm of the posterior vaginal wall. (Weber A. Obstet Gynec 1997;89:311, 20111213110058384)

s. Users should be familiar with surgical procedures for POP. Only being familiar with surgery for POP is insufficient to surgically implant Gynemesh safely by the recommended complex procedure (Prolift IFU 2004 and Prolift IFU after clearance; Women's Health Advisory Board Aug 7, 2009)

t. The various IFU's for Prolene mesh state that margin sutures should be placed. No indication is given as to where they should be placed or how to tension the mesh to take into account anticipated shrinkage with time. (Prolene, Gynemesh and Gynemesh PS IFU's from 1996 through today)

u. Acceptable surgical practices should be followed in the presence of contaminated wounds. The recommended surgical implantation technique is through the vagina, an organ which can never be sterilized. Ethicon acknowledges that the vagina is a "not clean space" (Prolene, Gynemesh and Gynemesh PS most mesh IFU's from 1996 through today, Prolift IFU, 2004, and Prolift IFU after clearance, Culligan P. Infect Dis Obstet Gynec2003;11:161, Global Launch Plan Draft)

16. Warnings:

a. Delayed rectal erosion—none given. (Prolene, Gynemesh and Gynemesh PS most mesh IFU's from 1996 through today; Prolift IFU 2004, and Prolift IFU after clearance)

b. Abscess—None given. (Prolene, Gynemesh and Gynemesh PS IFU's from 1996 through today; Prolift IFU 2004 and Prolift IFU after clearance)

c. Delayed visceral erosion-None given. (Prolene, Gynemesh and Gynemesh PS h IFU's from 1996 through today; Prolift IFU 2004 and Prolift IFU after clearance)

d. Delayed intractable and untreatable pain. None given. (Prolene, Gynemesh and Gynemesh PS IFU's from 1996 through today; Prolift IFU 2004 and Prolift IFU after clearance)

e. Ethicon chose what information MD's needed to know in the Professional Education slides. (Pareisi Ex.127 – 2005 Professional Education Deck)

f. Ethicon chose what information patients needed to know. (Prolift Patient Brochure, 12-04-06)

g. Mesh removal – no mention of the removal technique or the difficulty encountered in such removals. (Prolene, Gynemesh and Gynemesh PS IFU's from 1996 through today; Prolift IFU 2004 and Prolift IFU after clearance)

h. Ethicon made no changes the Prolift IFU after 2008 FDA Communication. (Robinson 2012-13-14 517, Post Market Surveillance)

17. Training sessions sponsored by Ethicon:

a. Training on Prolift use is recommended and available. Physicians could then use the Prolift mesh technique without training. The Hilaire Presentation discusses the critical issue of selling to non-POP experts, beyond the low hanging fruit. (Prolift IFU 2004 and Prolift IFU after clearance; Hilaire Presentation July 13, 2006)

b. Physicians should have experience in management of complications resulting from using surgical mesh. Yet, Ethicon targeted physicians with no experience in the use of mesh. (Prolift IFU after clearance; Jones, 2011-11-16, Plaintiff's Exhibit 59, Mitchell)

c. Ethicon funded study: states that instrumentation instruments were not provided. Yet, they state that a simple insertion instrument was used. (Prolift IFU after clearance, 20111213110058384)

d. Ethicon did not teach removal technique which is like learning to fly an airplane without learning how to land it. (2005 and 2007 Professional Education Decks)

e. MD's could insert Prolift without attending training since it was only recommended. (Prolift IFU 2004 and Prolift IFU after FDA clearance)

f. Training and performance of pelvic floor surgery by those physicians trained is not verified in any Ethicon documents reviewed.

g. No follow up information on physician performance with use of Ethicon products is verified in any Ethicon documents reviewed.

h. Ethicon told attending physicians that Prolift was safe when there were many indications that it was not safe that were known or should have been known to Ethicon. (2007 Professional Education Decks; MAUDE data base accessed April 2012)

i. Physicians were told that Prolift was reliable with a good success rate in spite of an 18.4% failure rate in the French part of the Ethicon funded Prolift study. Ethicon misled participants by showing the lesser 12% failure rate in the US part of the study. (2005 and 2007 Professional Education Decks; Cosson M. Int Urogyn J 2006;17(Suppl 1):S139)

j. Ethicon told participants that mesh must be easily implanted implying that Prolift insertion is easy, when, it was known to Ethicon to be very complex. (2005 and 2007 Professional Education Decks, Women's Health Advisory Board Aug 7, 2009)

k. Ethicon told participants that the mesh must be inert implying that Prolift mesh is inert which Ethicon knew or should have known that it is not inert. (2005 and 2007 Professional Education Decks and see above)

l. Ethicon told participants that the mesh must not shrink when Ethicon knew or should have known that Prolift had been shown to shrink. (2005 and 2007 Professional Education Decks and see above)

m. Ethicon told participants that Prolift was a "breakthrough" without any evidence to support this statement. (2005 and 2007 Professional Education Decks)

n. Ethicon told participants only that fistula has been reported and did not mention the 3 fistulae in its funded Prolift study. (2005 and 2007 Professional Education Decks)

o. Ethicon implied to participants that data from abdominal hernia repairs is applicable to the vagina by detailing such data. (2005 and 2007 Professional Education Decks)

p. Ethicon did not teach delayed visceral erosions which was or should have been known by Ethicon to occur. (2005 and 2007 Professional Education Decks, MAUDE data base accessed April 2012)

q. Ethicon told physicians that patients would have a quick recovery without teaching the long term adverse events which were or should have been known to Ethicon. (2005 and 2007 Professional Education Decks, MAUDE data base accessed April 2012)

r. Ethicon did not tell attending physicians about the decision in France not to pay for mesh insertion when Prolift was included in this action. (HAS http://www.has-sante.fr, 2006)

s. Ethicon did not teach variable PP reaction from patient to patient. (2005 and 2007 Professional Education Decks)

t. Ethicon did not teach delayed bowel erosion. (2005 and 2007 Professional Education Decks)

u. Ethicon did not teach mesh degradation. (2005 and 2007 Professional Education Decks)

v. Ethicon did not teach mesh oxidation. (2005 and 2007 Professional Education Decks)

w. Ethicon did not teach mesh shrinkage of up to 40%. (2005 and 2007 Professional Education Decks)

x. Ethicon did not teach mesh infection except to state that large pores would result in non-potentiation of infection. (2005 and 2007 Professional Education Decks)

y. Ethicon did not teach bacterial migration on mesh. (2005 and 2007 Professional Education Decks)

z. Ethicon did not teach bacterial silent persistence on mesh. (2005 and 2007 Professional Education Decks)

aa. Ethicon did not teach wicking of fluids and bacteria by mesh. (2005 and 2007 Professional Education Decks)

bb. Ethicon did not teach regarding interstices as hiding places for bacteria, but only mentioned that >10 micron interstices would result in non-potentiation of infection. (2005 and 2007 Professional Education Decks)

cc. Ethicon did not teach regarding toxic byproducts released into the body. (2005 and 2007 Professional Education Decks)

dd. Ethicon did not teach major colon surgery possible. (2005 and 2007 Professional Education Decks)

ee. Ethicon did not teach mesh friction and relation to granulation tissue. (2005 and 2007 Professional Education Decks)

ff. Ethicon did not teach mesh heat and relation to degradation. (2005 and 2007 Professional Education Decks)

gg. Ethicon did not teach importance of surface area. (2005 and 2007 Professional Education Decks)

hh. Ethicon did not teach importance of known surface roughness. (2005 and 2007 Professional Education Decks)

ii. Ethicon taught installation of mesh in clean/contaminated environment. (2005 and 2007 Professional Education Decks)

jj. Ethicon did not teach non-mesh surgical options. (2005 and 2007 Professional Education Decks)

kk. Ethicon did not teach should see/or assist in some procedures before becoming competent. (2005 and 2007 Professional Education Decks)

ll. Ethicon did not teach inflammation present for lifetime of device. (2005 and 2007 Professional Education Decks)

mm. Ethicon did not teach that resultant dyspareunia may be incurable and prevent intercourse for the lifetime of the patient. (2005 and 2007 Professional Education Decks)

nn. Ethicon did not teach that the above-mentioned incurable dyspareunia should be considered in sexually active women. (Eth Mesh 02286053)

oo. Ethicon did not teach that lifetime inflammation may impact device safety. (2005 and 2007 Professional Education Decks)

pp. Ethicon did not teach vagina with increased rate of infection. (2005 and 2007 Professional Education Decks)

qq. Ethicon did not teach possible patient selection criteria even though it possessed knowledge regarding high and low responders in February 2007. (2005 and 2007 Professional Education Decks, D'Aversa 2012-02-28 346)

rr. Ethicon did not tell physicians that polypropylene is the best of a bad lot regarding integration and retraction. (ETH.MESH.00271215)

18. Other Issues:

a. Ethicon states that Prolift is safe and/or efficacious on Jan 14, 2005, without data to confirm this statement. (Beath 2012-03-27 1059, Hoffman 2012-03-15 541)

b. Ethicon states that Prolift mesh is inert on Jan 14, 2005, without data to confirm this statement and as stated above there is contradictory data. (Beath 2012-03-27 1059)

c. Ethicon told FDA that no further studies regarding safety and efficacy were needed because there was only a shape change (rectangular to pre-shaped) to the previously cleared Gynemesh PS plus the addition of kitting and insertion tools. (20111213105816185)

d. Ethicon told FDA that design validation did not raise other issues of safety and efficacy of either the mesh implant or the inserter tools. (20111213105816185)

e. Ethicon told FDA that the Prolift mesh is identical in composition to the Gynemesh PS. (20111213105816185)

f. Ethicon told the FDA that Prolift (Gynemesh) mesh is identical to prolene mesh, yet in its sales force Primary Sales School in 2008 Ethicon stated that Gynemesh PS has 40% less mass than Prolene mesh. (Lisa 2011-12-19-137, Hoffman 2012-13-15 539; Gynecare Gynemesh PS 510k)

g. Ethicon told FDA substantial equivalence was demonstrated using cadaver modeling and animal lab testing. (20111213110058384)

h. Ethicon told FDA that there was no clinical investigation of Gynecare Gynemesh PS because testing had been done on the predicates. (Gynecare Gynemesh PS 510k)

i. Ethicon told FDA that the risks associated with mesh implants are deemed appropriate given the benefit they provide. (20111213110058384)

j. Ethicon told FDA that comparisons of mesh used for incontinence and that used for pelvic organ prolapse are not appropriate [mesh volume]. (20111213110058384)

k. Ethicon told FDA that Prolift is designed for skilled surgeons who have great pelvic organ prolapse experience and are familiar with the anatomy of the region. (20111213110058384)

l. Ethicon told FDA that knowledge and dissection of these spaces are part of a gynecologist's training and, therefore, not complex to a trained gynecologist. (20111213110058384)

m. Ethicon told the FDA that existing bench testing done for hernia applications is appropriate for a pelvic floor application. (20111213110058384)

n. Ethicon told FDA that biocompatibility testing in hernia applications represents biocompatibility of mesh in pelvic organ prolapse. (20111213110058384)

o. Ethicon told FDA that fascial tissue in the abdomen is comparable to that in the pelvis. (20111213110058384)

p. Ethicon told FDA that the total vaginal mesh evaluation in the US and French studies did not present issues of safety and efficacy. (20111213110058384)

q. Ethicon told FDA that the Prolift mesh is laser cut whereas the Gynemesh is cut mechanically without indicating that the heat of the laser will enhance degradation of the mesh. (20111213110058384)

r. The Global Launch Strategy refers to vagina as "not clean space".

s. The Global Launch Strategy states that prolapse repair is very complex.

t. The Hilaire presentation of July 13, 2006 discusses selling to those who are 'beyond the low hanging fruit" including non-POP experts and urologists.

u. The Hilaire presentation of July 13, 2006 states that their mesh materials are proven.

v. Ethicon told its sales staff that the flexibility of the Gynemesh fibers help prevent vaginal stiffness, that Gynemesh is safe and that Gynemesh is a breakthrough. There is either no evidence for these statements or they are false. (Hoffman 2012 -03-15 539)

w. Did not tell FDA of French mesh position? There is no evidence of this in the 510k's for any Prolene product.

x. Mersilene polyester mesh, the predicate for Prolene Soft and Gynemesh Prolene Soft (K-013718 and K-01310578), is a totally different material. How could it be a predicate? (ETH.MESH.01310586)

y. No testing as was done as it was done for predicates (K-013718 and K-01310578)-Can such testing on another predicate product really be the same as for a new product?

z. Ethicon expected its sales representatives to walk physicians through the surgical procedure. Is this Ethicon practicing medicine without a license? (ETH.MESH.00393223-7)

aa. Ethicon states the Gynemesh PS is inert and that the mesh allows macrophage penetration. Physicians were not told that interstices exist in the mesh where bacteria can hide and be protected from host defenses, such as macrophages. This information was known to Ethicon. Also, they were not told that polypropylene degrades and causes a persistent inflammatory reaction. (ETH.MESH.01611832, Robinson exhibit 495)

bb. Ethicon admits that the Prolift device was launched without clinical evidence. (ETH.MESH.00081478-9)

cc. Ethicon marketed the Prolift device in March of 2005, yet the FDA learned of this device in 2007. (Beath Ex. 1052)

dd. Ethicon states that the complications noted in the FDA PHN of 2008 are "included in the labeling for our products". (Beath Ex. 1048)

ee. In a patient brochure, Ethicon states that Prolift is revolutionary providing permanent pelvic support, promising in the long term. The mesh is stated to be a specially designed soft mesh. A minimal list of adverse events is given, omitting important ones, e.g., dyspareunia, and does not list occurrence rates of any of these events. There is no mention of scaring and scar plate formation over time leading to dyspareunia and pain. (Jones Ex. 241; Robinson Ex. 508)

ff. In a document for Media/Analyst Inquiries, Ethicon states that the Prolift device was marketed after clearance by the FDA in 2005, contrary to what is recorded in dd above. (Lisa Ex.171)

gg. A study originating in Scotland by Morling et al involved 18614 patients having a single prolapse procedure of which 1648 had implantation of mesh and the remainder comprised native tissue repairs. In comparison to native tissue repairs, those patients receiving mesh had statistically significant higher rates of complications for cystocele and rectocele repairs. The authors state that the use of mesh needs to be carefully considered. (The Lancet, abstract published on line November 13, 2005, p. 56)

hh. On August 31, 2007, the Pelvic Health Coalition sent a letter to Centers for Medicare and Medicaid Services to make comments and recommendations regarding the proposed 2008 Medicare Fee Schedule. This letter tells the FDA that it is a broad based coalition representing healthcare professionals as well as industry leaders. It further tells the FDA that the "PHC is dedicated to raising awareness of the critical importance of pelvic

health and to promote education about pelvic health issues". Is the PHC a lobbying group, and if so is it registered? (CMS-1385-P15007)

ii. In September of 2007, a supplement appeared in OBG Management with the title "Best Options, Techniques, and Coding Tips for Pelvic Prolapse Repair" with Barbara Levy, MD, as the program chair. It indicates that this publication was developed under a grant from the Pelvic Health Coalition, but does not acknowledge that the Coalition is funded by Ethicon and other companies and that this publication was organized to advertise mesh for prolapse repairs.

jj. In an email of January 15, 2009, Ethicon discusses a meeting with the FDA after the Public Health Notification of 2008. The Pelvic Health Coalition (PHC) board members are told that Dr. Levy, co-chair of the PHC, will be present at the meeting and that a call will be held after the meeting. (ETH.MESH.02312097-98)

kk. In February of 2008, the Pelvic Health Coalition, funded by Ethicon, takes credit for publication of the OBG Management Supplement and implementation by Medicare and Medicaid of new procedure codes. Ethicon states that industry is planning a meeting with the PHC doctors (ETH.MESH.00129134-35)

ll. An agenda is being planned for February 2008 meeting of PHC members that includes as the first order of business an Antitrust Statement. (ETH.MESH.00129136)

mm. On February 7, 2007, Dr. Levy, Co-Chair of the PHC, reports to PHC and industry members her contact with ACOG regarding the Practice Bulletin that described the use of mesh as experimental. She was promised that the College would let her know how it plans to respond to her concerns. The email also describes the PHC efforts to get a mesh add on code [so that physicians would be paid more by insurance to use mesh]. (ETH.MESH.02316434-36)

nn. In July of 2007, an email to PHC members (physicians and industry) discusses the draft of the OBG Management issue and the edits proposed by Gail. (ETH.MESH.00720002-03)

oo. In an email of August 2007, industry wants to put the OBG Management Supplement on their respective web sites in advance of its publication in September of 2007. (ETH.MESH.01280858-60)

pp. In an email of August 2007, the mesh manufacturing companies are adding input to the OBG Management Supplement including a visual graphics for products: Commonly Used Mesh Products and Properties. (ETH.MESH.01280816-18)

qq. In an email in July 2007, the mesh manufacturing companies including Ethicon are stating that "we want to avoid any trigger for the payor to review this academic discussion and justify a non-coverage decision. This is not a systematic review of the evidence nor a clinical guideline so it would be enhanced by some better upfront positioning…." (ETH.MESH.00738769-71)

rr. In July the Prolapse Repair Coalition was formed by mesh manufacturing companies including Ethicon and physicians to improve prolapse reimbursement for hospitals for pelvic floor procedures which utilize synthetic or autologous products. In addition, "we are requesting new ICD.9 procedure codes for pelvic floor procedures which utilize synthetic or autologous products" to eventually increase reimbursement for these procedures. Note: the end result was that physicians were paid more by insurance payors and the Federal Government to use these products. (ETH.MESH.00136420-22)

ss. In a document entitled "Prolapse Repair Procedures that Involve a Graft or Prosthetic Implant," it is stated that the coding system does not have appropriate codes for procedures that are compensatory in nature. New codes were created which would indicate the use of a graft, such as, "70.54 Repair of cystocele with graft or prosthesis." (ETH.MESH.00738636-38)

tt. From a Google search, done on August 25, 2013, of the address of the PHC from the letter referenced in #ii above, it is clear that this is the office of the Reed Smith Law firm, attorneys for one of the manufacturing companies. Are they a front for the PHC?

19. It concerns me that Ethicon would deliberately not warn doctors about its knowledge of complications arising from implanting its Prolift, Prolift+M, Prolene, Gynemesh, or Gynemesh PS products. As I doctor, I must make decisions to benefit, and not to harm my patients. I need full and accurate information so that I can make those decisions and so that I can fully discuss benefits and risks with my patients. If I cannot rely on information provided by manufacturers, I cannot obtain full and complete consent from my patients and they could suffer harm as a result. I consider ETHICON's actions to be an intentional disregard for the safety of my and other doctors' patients.

20. I may be asked to review additional materials and/or documentation as the case progresses and, in that event, I reserve the right to supplement this report.

I declare under penalty of perjury under the Laws of the State of Colorado that the foregoing is true and correct.

This _____day of January 2016 at Salida, Colorado.

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DONALD R. OSTERGARD, M.D.,